

REMARKS

Claims 1, 6, 9, 13, 15, 18, 21 and 26 have been amended.

Claims 1 – 28 are present in the subject application.

In the Office Action dated November 14, 2005, the Examiner has indicated that claims 6 - 8, 13 - 14, 18 - 20 and 26 - 28 contain patentable subject matter, has rejected claims 1 – 3, 9 - 10, 15 - 16 and 21 - 23 under 35 U.S.C. §102(e) and has rejected claims 4 - 5, 11 - 12, 17 and 24 - 25 under 35 U.S.C. §103(a). Favorable reconsideration of the subject application is respectfully requested in view of the following remarks.

Initially, the Examiner has objected to claims 6 - 8, 13 - 14, 18 - 20 and 26 - 28 as being dependent upon a rejected base claim, but further indicated that these claims would be allowable if re-written in independent form. Accordingly, claims 6, 13, 18 and 26 have been re-written in independent form and are considered to be in condition for allowance. Claims 7 - 8, 14, 19 - 20 and 27 - 28 depend, either directly or indirectly, from independent claims 6, 13, 18 or 26 and are similarly considered to be in condition for allowance.

The Examiner has rejected claims 1 - 3, 9 - 10, 15 - 16 and 21 - 23 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,839,829 (Daruwalla et al.). Briefly, the present invention is directed toward a communication network including one or more ground stations and a plurality of satellites. The ground stations and satellites basically serve as network nodes and each include a router that typically employs the OSPF routing protocol to route information through the network. The present invention utilizes apriori knowledge of topology changes to facilitate computations of routes. Since the network topology changes due to known movement of the satellites, the present invention predicts links becoming disabled based on the apriori knowledge and causes the OSPF protocol to recompute routes prior to disablement of the predicted links. The recomputation by the

protocol is initiated by preventing transmission and reception of neighbor discovery and maintenance or “Hello” type packets over the predicted link. Thus, new routes are determined by the protocol prior to the previous routes becoming disabled due to a topology change.

The Examiner takes the position that the Daruwalla et al. patent discloses the features recited within these claims.

These rejections are respectfully traversed since the Daruwalla et al. patent does not disclose, teach or suggest the features of establishing a particular condition within the network prior to occurrence of disablement of a communication link to enable recomputation of routes based on the communication link disablement and in response to a routing protocol as recited in independent claims 1, 9, 15 and 21. However, in order to expedite prosecution of the subject application, the independent claims have been amended to further clarify these features and recite: the routing protocol facilitating recomputation of routes within the network in response to occurrence of a particular condition indicating disablement of a communication link; and predicting occurrence of disablement of a communication link and establishing the particular condition within the network prior to actual disablement of that communication link to enable recomputation of the routes based on and prior to the communication link disablement in accordance with the routing protocol.

The Daruwalla et al. patent does not disclose, teach or suggest the above features recited in independent claims 1, 9, 15 and 21. Rather, the Daruwalla et al. patent discloses a routing protocol based redundancy design for shared-access networks. A protection cable modem termination system (CMTS) is available to immediately service a cable modem should that modem’s service from a working CMTS fail for any reason (e.g., See Abstract). The cable network system includes first and second cable modems each connecting to a separate CMTS. Each connection is made through an

HFC network. A first CMTS is given a designation for a working group thereby being responsible for handling communications with a first modem and its peers. Similarly a second CMTS is designated for a second working group and serves the needs of a second cable modem and many other modems. The first and second CMTS provide a protection pass for each other, where if one CMTS fails or otherwise goes out of service, the other CMTS takes over responsibility for servicing the cable modems and its peers of the failed CMTS. This arrangement is also useful for cases where a user wants the modems to move to a protection CMTS, while the user upgrades or services the working CMTS software, hardware etc. (e.g., See Column 5, lines 37 - 67). The Daruwalla et al. patent discloses various embodiments (e.g., See Figs. 2A - 2E), where a protection CMTS does not provide service until a working CMTS fails (e.g., See Column 6, lines 13 - 16 and 34 - 35; and Column 7, lines 25 - 28). The cable modem or the working CMTS may detect a failure, where the detecting device announces the failure to the other device in order to enable switching from a working CMTS to the protection CMTS (e.g., See Column 14, lines 39 - 49; and Column 14, line 65 to Column 15, line 40).

Thus, the Daruwalla et al. patent discloses switching from a working CMTS to a protection CMTS AFTER a failure of the working CMTS. There is no disclosure, teaching or suggestion of predicting occurrence of disablement of a communication link and establishing a condition indicating disablement of a link prior to actual disablement of that link to trigger recomputation of routes by the routing protocol based on and prior to the link disablement as recited in independent claims 1, 9, 15 and 21. In other words, the Daruwalla et al. patent discloses responding to a failed component, whereas the claims recite anticipating a communication link failure and determining routes prior to actual failure of the link.

Since the Daruwalla et al. patent does not disclose, teach, or suggest the features recited in

independent claims 1, 9, 15 and 21 as discussed above, these claims are considered to be in condition for allowance.

Claims 2 - 3, 10, 16 and 22 - 23 depend, either directly or indirectly, from independent claims 1, 9, 15 or 21 and, therefore, include all of the limitations of their parent claims. These claims are considered to be in condition for allowance for substantially the same reasons discussed above in relation to their parent claims and for further limitations recited in the dependent claims.

The Examiner has rejected claims 4, 11, 17 and 24 under 35 U.S.C. §103(a) as being unpatentable over the Daruwalla et al. patent in view of U.S. Patent No. 6,856,592 (Grover et al.). Briefly, the present invention is directed toward a communication network that predicts links becoming disabled and causes a routing protocol to recompute routes prior to disablement of the predicted links as described above.

The Examiner takes the position that the Daruwalla et al. patent teaches all the limitations recited in the claims except for the routing protocol being the OSPF routing protocol. The Examiner further alleges that the Grover et al. patent teaches this feature and that it would have been obvious to combine the Daruwalla et al. and Grover et al. patents to attain the acclaimed invention.

This rejection is respectfully traversed. Initially, claims 4, 11, 17 and 24 depend, either directly or indirectly, from independent claims 1, 9, 15 or 21 and, therefore, include all the limitations of their parent claims. As discussed above, the Daruwalla et al. patent does not disclose teach or suggest predicting the occurrence of disablement of a communication link and establishing the particular condition indicating disablement of the communication link within the network prior to actual disablement of that communication link to enable recomputation of routes based on and prior to the communication link disablement in accordance with the routing protocol.

The Grover et al. patent does not compensate for the deficiencies of the Daruwalla et al.

patent. Rather, the Grover et al. patent is directed toward providing restoration routes for protecting traffic in a mesh network and is merely utilized by the Examiner for an alleged teaching of the OSPF protocol.

Since the Daruwalla et al. and Grover et al. patents do not disclose, teach or suggest, either alone or in combination, the features recited in claims 4, 11, 17 and 24 as discussed above, these claims are considered to be in condition for allowance.

The Examiner has rejected claims 5, 12 and 25 under 35 U.S.C. §103(a) as being unpatentable over the Daruwalla et al. patent in view of U.S. Patent No. 5,517,494 (Green). Briefly, the present invention is directed toward a communication network that predicts links becoming disabled and causes a routing protocol to recompute routes prior to disablement of the predicted links as described above.

The Examiner takes the position that the Daruwalla et al. patent discloses all the limitations of the claims except for periodically transmitting neighbor packets in order to verify communication links with other communication units and a particular condition being the absence of transmission and reception of the neighbor packets within a corresponding interval. The Examiner further alleges that the Green patent discloses these features and that it would have been obvious to combine the Daruwalla et al. and Green patents to attain the claimed invention.

Initially, claims 5, 12 and 25 depend, either directly or indirectly, from independent claims 1, 9 or 21 and, therefore, include all the limitations of their parent claims. As discussed above, the Daruwalla et al. patent does not disclose, teach or suggest predicting the occurrence of disablement of a communication link and establishing a particular condition indicating disablement of the communication link within the network prior to actual disablement of that communication link to enable recomputation of routes based on and prior to the communication link disablement in

accordance with a routing protocol.

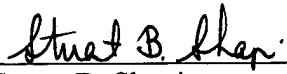
The Green patent does not compensate for the deficiencies of the Daruwalla et al. patent. Rather, the Green patent is directed toward a method of implementing a multicast routing protocol in routers to manage the assignment of multicast transport addresses and to forward data from a single transmitting end point to multi-receiving end points. The Green patent is merely utilized by the Examiner for an alleged teaching of neighbor discovery.

Since the Daruwalla et al. and Green patents do not disclose, teach or suggest, either alone or in combination, the features recited in claims 5, 12 and 25 as discussed above, these claims are considered to be in condition for allowance.

In addition to the foregoing, there is no apparent motivation or reason to combine the teachings of the Daruwalla et al., Grover et al. and Green patents. In particular, the Daruwalla et al. patent is directed toward a protection CMTS to assume the responsibilities of a working CMTS in case of failure, while the Grover et al. patent is directed toward a method of providing restoration routes for protecting traffic in a mesh network. The Green patent is directed toward a multi-cast routing protocol. Thus, these patents are directed toward diverging applications and there is no apparent reason, motivation or suggestion to combine their teachings absent prohibited hindsight derived from Applicant's own disclosure. Accordingly, the proposed combination of the Daruwalla et al. patent with the Grover et al. or Green patents does not render the claimed invention obvious.

The application, having been shown to overcome issues raised in the Office Action, is considered to be in condition for allowance and a Notice of Allowance is earnestly solicited.

Respectfully submitted;


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